
Phase I Study of IL13R α 2-Targeting CAR T Cells After Lymphodepletion for Children with Refractory or Recurrent Malignant Brain Tumors

Grant Award Details

Phase I Study of IL13R α 2-Targeting CAR T Cells After Lymphodepletion for Children with Refractory or Recurrent Malignant Brain Tumors

Grant Type: Clinical Trial Stage Projects

Grant Number: CLIN2-12153

Investigator:

Name:	Leo Wang
Institution:	City of Hope, Beckman Research Institute
Type:	PI

Disease Focus: Brain Cancer, Cancer, Solid Tumors

Award Value: \$8,401,309

Status: Pre-Active

Grant Application Details

Application Title: Phase I Study of IL13R α 2-Targeting CAR T Cells After Lymphodepletion for Children with Refractory or Recurrent Malignant Brain Tumors

Public Abstract:**Therapeutic Candidate or Device**

Autologous chimeric antigen receptor T cells derived from naive/memory T cells and engineered to target IL13R α 2 on pediatric malignant brain tumors.

Indication

Recurrent/refractory malignant pediatric brain tumors that express the tumor-associated antigen IL13R α 2.

Therapeutic Mechanism

Naive and memory T cells are harvested from patients and reprogrammed to express chimeric antigen receptors for targeted tumor killing. Upon adoptive transfer, the CAR product recognizes and destroys malignant brain tumor cells expressing IL13R α 2. Lymphodepleting chemotherapy is included in this trial to augment the proliferation, persistence, and efficacy of these cells.

Unmet Medical Need

This proposal addresses the critical unmet medical need for effective therapies to treat aggressive pediatric brain tumors, including glioblastoma, medulloblastoma, atypical teratoid/rhabdoid tumor, diffuse midline glioma, and others.

Project Objective

Phase I trial completed and Phase II trial enabled

Major Proposed Activities

- manufacture and release of IL13BB ζ -Tn/mem CAR T cells
- evaluate safety and feasibility of intraventricularly-delivered CAR T cells administered after lymphodepletion in pediatric patients
- develop and establish methods and target populations for Phase II clinical trial

Statement of Benefit to California:

This proposal will benefit California residents by developing more effective and less toxic therapies for aggressive pediatric brain tumors. This will result in lives prolonged or saved, fewer missed days of work, and less economic and emotional burden to families and caregivers. Additionally, it will create and support skilled jobs, serve to recruit talent from elsewhere in the country/world, and cement California's leadership in this field.

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